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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 616,655	07/14/2000	Pedro Eugenio Cosma	RCA 89,477	6489

7590 01/02/2003

Joseph S Tripoli
Patent Operations GE and RCA
Licensing Management Operation Inc
CN 5312
Princeton, NJ 08543-0028

EXAMINER

COLON, GERMAN

ART UNIT PAPER NUMBER

2879

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/616,655

Applicant(s)

COSMA ET AL.

Examiner

German Colón

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Response to Amendment

1. The Amendment, filed on October 15, 2002, has been entered and acknowledged by the Examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Lakshmanan et al. (US 5,982,085).

Regarding claim 1, Lakshmanan discloses a color cathode-ray tube (see Fig. 1) comprising a glass front faceplate **15**, a screen of luminescent materials **18**, a color-selection mask **22**, a frame **25** to which the mask is fixed, the frame being of a substantially rectangular shape defined by a pair of opposed long sides **33** and a pair of opposed short sides **36** (see Col. 4 lines 14-17), including an edge **26** in the form of a metal part substantially parallel to the surface of the mask, the frame/mask assembly being held within the faceplate by support means engaging pins **14**, said means incorporate a metal piece including a first portion **27** extending over one of the surfaces of said metal part and a second portion **40** extending in a direction substantially perpendicular to the surface of the mask.

Lakshmanan is silent regarding the limitation of "said metal piece and said support means having coefficients of thermal expansion that cause the sides having the first portion to deform when heated such that ends of the sides not having the first portion approach each other to reduce the tension in the mask during heating". The Examiner notes that this limitation is dependent on a difference of the coefficients of thermal expansion (CTE) between the frame and the metal piece, specifically, when the coefficient of thermal expansion of the metal piece is greater than that of the frame. Lakshmanan teaches the metal piece being made of stainless steel and the frame being made of low carbon steel. It is known in the art that the coefficient of thermal expansion of stainless steel is greater than that of low carbon steel (i.e. CTE for stainless steel is in a range of 17.06 to 18.5; CTE for low carbon steel is in a range of 12.2 to 13.5).

It is elementary that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. *In re Swinehart*, 169 USPQ 226 (CCPA 1971). Thus, the functional limitation of "having coefficients of thermal expansion that cause the sides having the first portion to deform when heated such that ends of the sides not having the first portion approach each other to reduce the tension in the mask during heating" is taught by Lakshmanan under the principles of functional inherency.

Regarding claim 2, the support means are arranged at the corners of the frame (see Figs. 2 and 3).

Referring to claim 3, Lakshmanan is silent regarding the limitation of "the mask being held under tension between the long sides of the frame". It is considered to be inherent of the mask to have an applied tension along the sides of the frame. It is elementary that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. *In re Swinehart*, 169 USPQ 226 (CCPA 1971). Thus, the functional limitation of "the mask being held under tension between the long sides of the frame" is taught by Lakshmanan under the principles of functional inherency.

Referring to claim 5, Lakshmanan discloses the preferred materials for the frame and support means, being the first one made of low carbon steel, and the second one of either nickel-plated low carbon steel or stainless steel (see Col. 4, lines 20-24). Therefore, the coefficients of thermal expansion are different.

Regarding claim 6, Lakshmanan discloses the support means made of stainless steel and the frame made of low carbon steel. It is known in the art that the coefficient of thermal expansion of stainless steel is higher than that of low carbon steel.

Regarding claim 7, Lakshmanan discloses the first portion of the metal piece of the support means welded to the surface of the metal part opposite the mask (see Fig. 3).

Referring claim 8, Lakshmanan discloses four support means each incorporating a metal piece (see Col. 4, lines 2-3 and Figs 2 and 3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakshmanan in view of Sakata et al. (US 5,214,349).

Regarding claim 3, Lakshmanan discloses the claimed invention except for the limitation of "the mask being held under tension between the long sides of the frame".

However, in the same field of endeavor, Sakata discloses a CRT comprising a color selection mask 11, a frame of a substantially rectangular shape (see Figs. 1, 3, 11 and 12) and the mask/frame assembly being held within the faceplate by support means engaging pins 26. Sakata also discloses a frame/mask assembly where the tension is applied between the long sides of the frame (see Figs. 2, 8 and 10). This tension contributes to the prevention of the resonance of the filaments (mask) 11 with an external vibration, thereby producing a high-definition picture (see Col. 5, lines 61-66). Therefore, it would have been obvious to anyone of ordinary skill in the art at the time the invention was made to use Sakata's teaching to modify the frame/shadow assembly of Lakshmanan to apply a tension at the long opposite sides since Sakata teaches that

this tension contributes to the prevention of the resonance of the mask with an external vibration, thereby producing a high-definition picture.

Regarding claim 4, Lakshmanan discloses the claimed invention except for the limitation of "the sides including an edge in the form of a metal part substantially parallel to the surface of the mask being the short sides of the frame". However, in the same field of endeavor, Sakata teaches the equivalence of placing the support pins at the corners or arranging them toward the inner part of the panel in the vicinity of the corner portion as shown in Figs. 27 to 29 (see also Col. 9, lines 56-64). On Figure 29 the support pins are placed in the short sides of the faceplate. Therefore, it would have been obvious to anyone of ordinary skill in the art at the time the invention was made to use Sakata's teaching to modify the frame/shadow assembly of Lakshmanan since Sakata teaches that is equivalent to place the support pins at the corners or arranging them toward the inner part of the panel in the vicinity of the corner portion.

Response to Arguments

6. Applicant's arguments filed October 15, 2002 have been fully considered but they are not persuasive.

7. Applicants argue that the cited references fail to disclose the use of materials having coefficients of thermal expansion in relation to each other that produce a specified result, i.e. the limitation of the metal piece and the support means having coefficients of thermal expansion that cause the sides having the first portion to deform when heated such that ends of the sides not having the first portion approach each other to reduce tension in the mask during heating.

However, the Examiner notes that this limitation is dependent on a difference of the coefficients of thermal expansion (CTE) between the frame and the metal piece, specifically, when the coefficient of thermal expansion of the metal piece is greater than that of the frame. Lakshmanan et al. teaches the metal piece being made of stainless steel and the frame being made of low carbon steel. It is known in the art that the coefficient of thermal expansion of stainless steel is greater than that of low carbon steel (i.e. CTE for stainless steel is in a range of 17.06 to 18.5; CTE for low carbon steel is in a range of 12.2 to 13.5).

Applicants argue that the cited references do not disclose the limitations as set forth in claims 2-8, because they include the limitations of claim 1 which the prior art does not teach.

However, the Prior Art of Record teaches the limitations of claim 1 as stated above and further includes all the limitations set forth in claims 2-8.

For the reasons stated above, the rejection of claims 1-8 is deemed proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

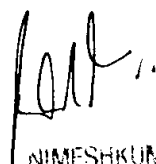
Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 703-305-5987. The examiner can normally be reached on Monday thru Friday, from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 703-305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7382 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


gc

December 19, 2002


NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800